

REMARKS

This application has been carefully reviewed in light of the Office Action mailed on February 5, 2003. Claims 1, 14 and 38 have been canceled. A marked-up version of these claims, showing changes made, is attached hereto as Appendix A. Claims 55 and 56 have been added to round out the scope of protection sought by the Applicants. Claims 1-1, 4-15 and 17-56 are now pending. Applicants respectfully request reconsideration of the above-referenced application in light of the amendments and following remarks.

Claim 1 has been amended to recite in pertinent part, “an electrode having at least one layer consisting of platinum-rhodium material and at least one layer comprising platinum material on top of the platinum-rhodium layer”

Similarly, claim 14 has been amended to recite “a lower electrode comprising at least two layers, said first layer consisting of platinum-rhodium material and a second layer comprising platinum material on top of the platinum-rhodium layer.”

Claim 38 has been amended to recite “a lower electrode having a layer comprising titanium material, an alloy layer on top of the layer comprising titanium, wherein the alloy layer consists of approximately 60 to approximately 97 percent platinum and approximately 3 to approximately 40 percent rhodium.”

Claims 1 and 14 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by Okutoh et al. (U.S. Patent No. 6,201,271) (“Okutoh I”). Reconsideration is respectfully requested.

Okutoh I fails to anticipate the present invention. In particular, Okutoh I does not teach or suggest “an electrode having at least one layer consisting of platinum-rhodium material and at least one layer comprising platinum material on top of the platinum-rhodium layer,” as claim 1 recites (emphasis added), nor “a lower electrode comprising at least two layers, said first layer consisting of platinum-rhodium material and a second layer comprising platinum material on top of the platinum-rhodium layer,” as claim 14 recites

(emphasis added).

Okutoh I is directed to forming an upper electrode and not a lower electrode as recited by claim 14. Moreover, Okutoh I teaches an alloy oxide film 15. The alloy oxide film 15 consists of platinum, rhodium, and oxygen in a ratio of 70:15:15 (Col. 6, lines 36-39). In contrast, Applicants claim an electrode with a layer “consisting of platinum-rhodium material.” (emphasis added). Accordingly, the rejection of claims 1 and 14 should be withdrawn.

Claims 1 and 14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Okutoh et al. (U.S. Patent No. 6,180,974) (“Okutoh II”). Reconsideration is respectfully requested.

Okutoh II fails to anticipate the present invention. For similar reasons described above, Okutoh II does not teach or suggest “an electrode having at least one layer consisting of platinum-rhodium material and at least one layer comprising platinum material on top of the platinum-rhodium layer,” as claim 1 recites (emphasis added), nor “a lower electrode comprising at least two layers, said first layer consisting of platinum-rhodium material and a second layer comprising platinum material on top of the platinum-rhodium layer,” as claim 14 recites (emphasis added).

Okutoh II teaches a lower electrode film that is formed of an oxide of a platinum-rhodium alloy. (Col. 8, lines 47-55). In contrast, Applicants claim an electrode with a layer “consisting of platinum-rhodium material,” and not an oxide of a platinum-rhodium alloy (emphasis added). Accordingly, the rejection of claims 1 and 14 based on Okutoh II should be withdrawn.

Claims 1 and 14 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by Desu. Reconsideration is respectfully requested.

Desu fails to anticipate the present invention. Desu does not teach or suggest “an electrode having at least one layer consisting of platinum-rhodium material and at least one layer comprising platinum material on top of the platinum-rhodium layer,” as claim 1 recites (emphasis added), nor “a lower electrode comprising at least two layers, said first layer consisting of platinum-rhodium material and a second layer comprising platinum material on top of the platinum-rhodium layer,” as claim 14 recites (emphasis added). Accordingly, the rejection of claims 1 and 14 based on Desu should similarly be withdrawn.

Claims 1-54 stand rejected under the judicially doctrine of obviousness double-patenting over claims 1-54 of Agarwal. Reconsideration is respectfully requested.

Out the outset, Applicants respectfully submit that claims 1, 4-15 and 17-54 are pending. Claims 2, 3 and 16 were previously canceled. Moreover, Applicants respectfully disagree with the Office Action’s contention that the claims of this case are obvious over the claims in Agarwal. The purportedly conflicting claims are not identical nor would it have been obvious to one of ordinary skill in the art to substitute a platinum material for the lower electrode of Agarwal with other metals or other compounds comprising platinum material or platinum-rhodium material as a design alternative. It is obvious only when viewed in light of Applicants’ own specification. The motivation to use other materials is found in Applicants’ own specification on page 12 and not the prior art.

For example, claim 1 recites “an electrode having at least one layer consisting of platinum-rhodium material and at least one layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer consisting of platinum-rhodium comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum.” Conversely, Agarwal’s claim 1 recites “an electrode having a platinum-rhodium layer and a layer consisting of platinum material.” Claim 1 is not identical nor obvious to Agarwal’s claim 1. Claims 4-13 depend from claim 1 and are similarly not identical nor obvious to Agarwal’s claims 4-13.

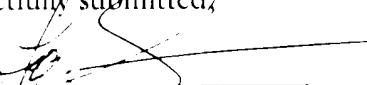
Claim 14 recites “a lower electrode comprising at least two layers, said first layer consisting of platinum-rhodium material and a second layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer consisting of platinum-rhodium is an alloy comprising approximately 3 to approximately 40 percent rhodium.” Conversely, Agarwal’s claim 14 recites “a lower electrode having a platinum-rhodium layer and layer consisting of platinum material.” Therefore, claim 14 is not identical nor obvious to Agarwal’s claim 14. Claims 15 and 17-37 depend from claim 14 and are not identical nor obvious to Agarwal’s claims 15 and 17-37.

Similarly, claim 38 recites “a lower electrode having a layer comprising titanium material, an alloy layer on top of the layer comprising titanium, wherein the alloy layer consists of approximately 60 to approximately 97 percent platinum and approximately 3 to approximately 40 percent rhodium, and a layer comprising platinum material on top of the alloy layer.” Conversely, Agarwal’s claim 38 recites a “lower electrode having a titanium layer . . . and a platinum layer.” Therefore, claim 38 is not identical nor obvious to Agarwal’s claim 38. Claims 39-54 depend from claim 38 and are similarly not identical nor obvious to Agarwal’s claims 39-54.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

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APPENDIX A

1. (twice amended) A capacitor, comprising:

an electrode having [a] at least one layer [comprising] consisting of platinum-rhodium material and [a] at least one layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer [comprising] consisting of platinum-rhodium comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum.

14. (twice amended) A capacitor, comprising:

a lower electrode [having a layer] comprising at least two layers, said first layer [comprising] consisting of platinum-rhodium material and a second layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer [comprising] consisting of platinum-rhodium is an alloy comprising approximately 3 to approximately 40 percent rhodium;

an upper electrode; and

a dielectric layer of a ferroelectric or high dielectric constant dielectric material formed between said lower and upper electrodes, wherein said dielectric layer is in contact with the platinum layer of said lower electrode.

38. (twice amended) A capacitor, comprising:

a lower electrode having a layer comprising titanium material, an alloy layer on top of the layer comprising titanium, wherein the alloy layer [comprises] consists of approximately 60 to approximately 97 percent platinum and approximately 3 to approximately 40 percent rhodium, and a layer comprising platinum material on top of the alloy layer;

an upper electrode; and

a dielectric layer of a ferroelectric or high dielectric constant dielectric material formed between said lower and upper electrodes, wherein said dielectric layer is in contact with the layer comprising platinum material of said lower electrode.